



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) **EP 0 817 195 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
24.05.2000 Bulletin 2000/21

(43) Date of publication A2:  
07.01.1998 Bulletin 1998/02

(21) Application number: 97304820.0

(22) Date of filing: 02.07.1997

(51) Int Cl.7: **G11B 27/32**, G11B 27/30,  
G11B 27/10, G11B 20/00,  
G11B 20/10, G11B 20/12,  
G11B 19/02, G11B 19/12,  
G11B 7/00, G11B 7/007

(84) Designated Contracting States:  
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE**

(30) Priority: 04.07.1996 JP 19271296

(71) Applicant: **SONY CORPORATION**  
Tokyo 141 (JP)

(72) Inventors:  
• **Maeda, Muneyasu**  
Shinagawa-ku, Tokyo 141 (JP)

• **Suzuki, Tadao**  
Shinagawa-ku, Tokyo 141 (JP)

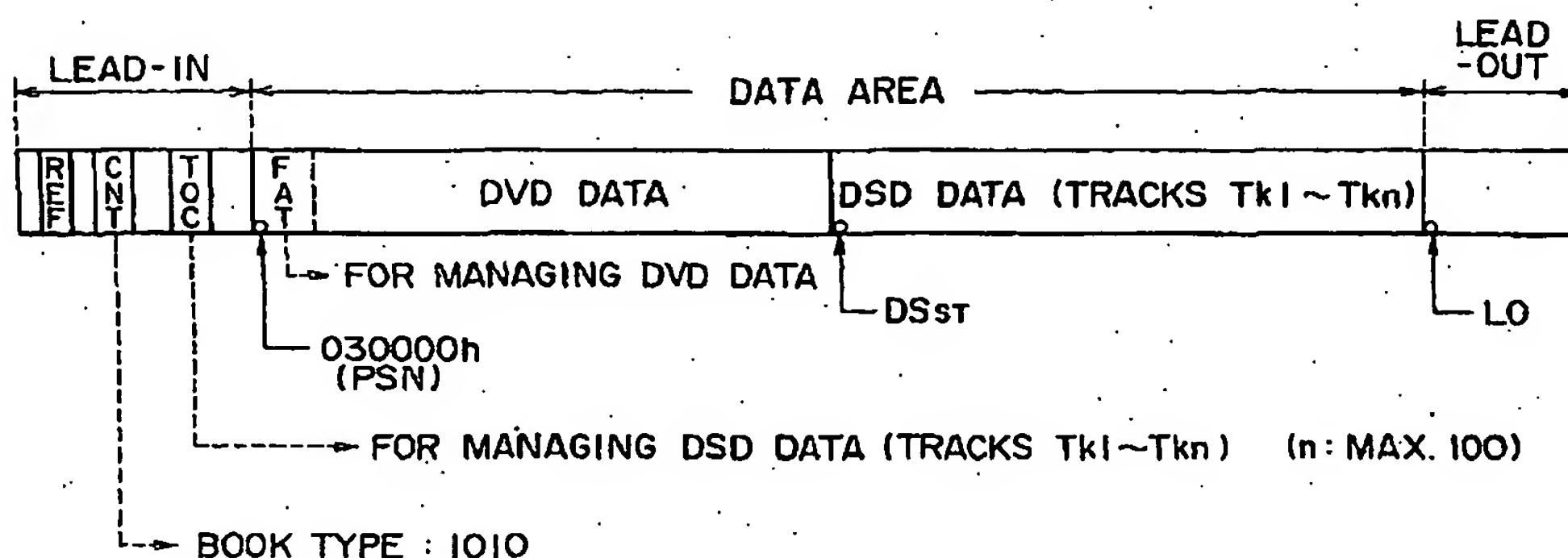
(74) Representative: **Ayers, Martyn Lewis Stanley**  
**J.A. KEMP & CO.**  
14 South Square  
Gray's Inn  
London WC1R 5LX (GB)

(54) **Recording medium and reproducing apparatus**

(57) A recording medium conforming with a specific physical format of DVD or the like is contrived to achieve superior sound quality in audio data recording and reproduction, common usability of data, and enhanced interchangeability of apparatus. In this recording medium, identification data signifying the existence of recorded data of a second data format (DSD) different from a first

data format (DVD) is included in physical format management information recorded in a lead-in area. The data of such second data format is recorded in a data area in conformity with the physical format management information. Second data management information (TOC) is recorded at a predetermined position to manage an operation of reproducing the data of the second data format.

**FIG. 27**



EP 0 817 195 A3



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 97 30 4820

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IntCl.6)
Y	EP 0 691 651 A (SONY CORP) 10 January 1996 (1996-01-10) * column 10, line 14 - column 18, line 22; figures 68,7,11-14 *	1,3-6, 15,17-19	G11B27/32 G11B27/30 G11B27/10 G11B20/00 G11B20/10
Y	EP 0 613 144 A (SONY CORP) 31 August 1994 (1994-08-31) * the whole document *	1,3-6, 15,17-19	G11B20/12 G11B19/02 G11B19/12 G11B7/00
A	EP 0 635 835 A (SONY CORP) 25 January 1995 (1995-01-25) * the whole document *	1-4,6, 15-20	G11B7/007 H04N5/85
A	EP 0 714 098 A (TOKYO SHIBAURA ELECTRIC CO) 29 May 1996 (1996-05-29) * the whole document *	1,3-5,15	
A	EP 0 165 320 A (SONY CORP) 27 December 1985 (1985-12-27) * the whole document *	1-5,13, 15,25	
A	EP 0 706 185 A (TIME WARNER INTERACTIVE GROUP) 10 April 1996 (1996-04-10) * the whole document *	1,3-5	TECHNICAL FIELDS SEARCHED (IntCl.6) G11B H04N
P,A	EP 0 777 227 A (SONY CORP) 4 June 1997 (1997-06-04) * the whole document *	1,3,13, 15,17,25	
P,A	EP 0 776 008 A (SONY CORP) 28 May 1997 (1997-05-28) * the whole document *	1,10-15, 23-26	
P,A	FR 2 732 497 A (AMBRE SARL) 4 October 1996 (1996-10-04) * the whole document *	1,3-5,8, 9,12	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 4 April 2000	Examiner Daalmans, F
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document			

EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 97 30 4820

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-04-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0691651 A	10-01-1996	JP 8022688 A	23-01-1996
		CN 1121625 A	01-05-1996
		US 5740304 A	14-04-1998
EP 0613144 A	31-08-1994	JP 7014313 A	17-01-1995
		JP 6251563 A	09-09-1994
		DE 69422535 D	17-02-2000
		US 5687397 A	11-11-1997
		US 5737639 A	07-04-1998
		US 5799212 A	25-08-1998
EP 0635835 A	25-01-1995	JP 7085605 A	31-03-1995
		AU 674754 B	09-01-1997
		AU 6752194 A	02-02-1995
		DE 69421219 D	25-11-1999
		DE 69421219 T	10-02-2005
EP 0714098 A	29-05-1996	JP 8147939 A	07-06-1996
		AT 175804 T	15-01-1999
		AU 693282 B	25-06-1998
		AU 3935995 A	17-06-1996
		BR 9506563 A	28-10-1997
		CA 2181265 A	30-05-1996
		CN 1139493 A	01-01-1997
		DE 69507270 D	25-02-1999
		DE 69507270 T	12-08-1999
		EP 0869497 A	07-10-1998
		WO 9616410 A	30-05-1996
		NO 963071 A	06-09-1996
		US 5778142 A	07-07-1998
		JP 2880981 B	12-04-1999
		JP 10083661 A	31-03-1998
		JP 2747262 B	06-05-1998
		JP 8263969 A	11-10-1996
EP 0165320 A	27-12-1985	JP 8028054 B	21-03-1996
		JP 60119670 A	27-06-1985
		AT 76996 T	15-06-1992
		AU 587963 B	07-09-1989
		BR 8407199 A	05-11-1985
		DE 3485761 A	09-07-1992
		HK 81595 A	01-06-1995
		WO 8502481 A	06-06-1985
		KR 9501871 B	04-03-1995
		KR 9300989 B	12-02-1993
		SG 9590659 A	01-09-1995

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 97 30 4820

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-04-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0165320 A		US 4893193 A	09-01-1990
EP 0706185 A	10-04-1996	US 5602815 A	11-02-1997
		AT 187575 T	15-12-1999
		DE 69513777 D	13-01-2000
		JP 8180417 A	12-07-1996
EP 0777227 A	04-06-1997	AU 709193 B	26-08-1999
		AU 5845596 A	18-12-1996
		BR 9606403 A	28-10-1997
		CN 1159245 A	10-09-1997
		WO 9638842 A	05-12-1996
		US 5999508 A	07-12-1999
		US 5856958 A	05-01-1999
		US 5926448 A	20-07-1999
EP 0776008 A	28-05-1997	JP 9147487 A	06-06-1997
		US 5712838 A	27-01-1998
		US 5872755 A	16-02-1999
FR 2732497 A	04-10-1996	NONE	

EPO FORM P0439

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82